



Applicant: Urs-Peter Studer  
Appl. No.: 10/726,543

## REMARKS

The Applicant thanks the Examiner for the careful consideration of this application. Claims 1-12 are currently pending. Claim 1 has been amended. Claim 4 was previously withdrawn. New claim 12 has been added. Based on the foregoing amendments and the following remarks, the Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

### Claim Objections

The Office Action objected to claim 1 for containing an informality relating to the use of the word "they." Claim 1 has been amended to correct this informality.

### Rejections under 35 U.S.C. § 103

I. The Office Action rejected claims 1, 6, and 8 under 35 U.S.C. § 103(a) as being unpatentable over Kojima et al. (U.S. Patent No. 4,312,559) in view of Case '061 (U.S. Patent No. 4,455,061). Claim 1 is the independent claim. The Applicant respectfully submits that independent claim 1 is patentable over these cited references for at least three reasons.

**First**, neither Kojima nor Case '061 discloses or suggests a holographic optical element for *measuring at least one of the dimension and position* of an object with aid of a deflected laser beam, as recited by independent claim 1. Rather, Kojima relates to a method of making an inline hologram lens (*see, e.g.*, Kojima at 1:6-11), and Case '061 relates to a multi-faceted holographic optical element (HOE). (*See, e.g.*, Case '061 at 1:7-11.) Neither Kojima nor Case

'061 has anything to do with measuring an object.

**Second**, neither Kojima nor Case '061 discloses or suggests at least two interference patterns formed on the holographic optical element, as recited by claim 1. Contrary to the allegations in the Office Action, Kojima does not disclose or suggest this feature. At best, Kojima discloses a **single** interference pattern being formed on each of the holographic optical elements. See, for example, the single interference pattern formed on each hologram record medium HR1, HR2 of Fig. 7 of Kojima. Nowhere does Kojima disclose or suggest forming **at least two** interference patterns on any one of the holographic record mediums HR1, HR2. Case '061 does not provide the missing disclosure of this claim feature.

**Third**, neither Kojima nor Case '061 discloses or suggests that if the parallel partial wave fronts are virtually extended through the holographic optical element, the parallel partial wave fronts intersect behind the element in a center of a measuring field, as recited by claim 1. Contrary to the allegations in the Office Action, Figure 12 and/or column 12, lines 8-39 of Case '061 do not disclose or suggest **parallel partial wave fronts** intersecting behind the hologram 52. Rather, Case '061 discloses that the lens 135 (misabeled as 136 in Fig. 12) focuses the reference beam 132a on a scan spot 136 behind the lens 135. (See, e.g., Case '061 at 12:17-27, Figs. 11, 12.) The reference beam 132a is **not** parallel partial wave fronts, as claimed. As acknowledged by the Office Action on page 4, Kojima does not provide the missing disclosure.

Claim 1 is patentable over any reasonable combination of Kojima and Case '061 for at least the three reasons discussed above. Claims 6 and 8 depend from claim 1, and are patentable for at least the same reasons.

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II. The Office Action rejected claims 2, 3 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Kojima in view of Case '061, and further in view of Case '037 (U.S. Patent No. 4,547,037).

Claims 2, 3, and 5 depend from claim 1, which, as demonstrated above, is patentable over Kojima and Case '061. Case '037 does not remedy the deficiencies of Kojima and Case '061. Therefore, claim 1, as well as dependent claims 2, 3, and 5, are patentable over Kojima, Case '061, and Case '037.

III. The Office Action rejected claims 7 and 9-11 under 35 U.S.C. § 103(a) as being unpatentable over Kojima in view of Case '061, and further in view of Käser (U.S. Patent No. 4,955,694).

Claims 7 and 9-11 depend from claim 1, which, as demonstrated above, is patentable over Kojima and Case '061. Käser does not remedy the deficiencies of Kojima and Case '061. Therefore, claim 1, as well as dependent claims 7 and 9-11, are patentable over Kojima, Case '061, and Käser.

#### New Claim 12

New independent claim 12 has been added to define further aspects of the invention. The Applicant respectfully requests consideration and allowance of new claim 12.

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**Conclusion**

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant, therefore, respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

Date: November 7, 2006

  
Steven J. Schwarz  
Registration No. 47,070  
VENABLE LLP  
P.O. Box 34385  
Washington, DC 20043-9998  
Telephone: (202) 344-4000  
Direct Dial: (202) 344-4295  
Telefax: (202) 344-8300

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